

17. a) List the uses of D.N.A. Fingerprinting.
 b) Explain each labelled part briefly.

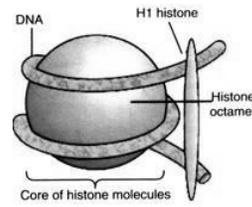
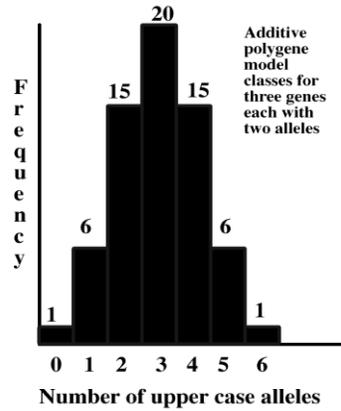
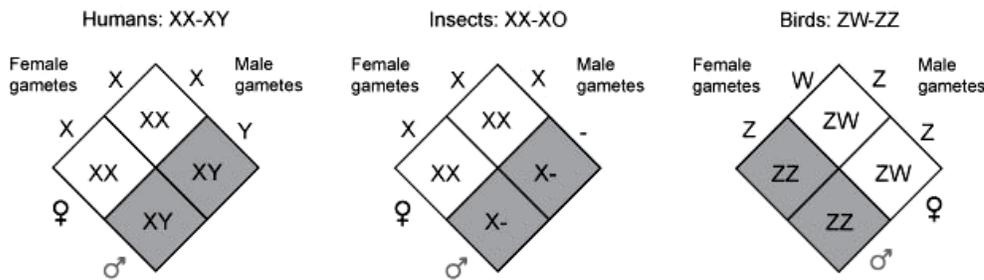


Image 4.4. Nucleosome

18. Explain the diagrammatic explanation in detail.



19. Study the crosses below and explain the phenomenon showed her



20. Give the salient features of the double-helix structure of D.N.A.
 21. Name the type of human cell HIV attacks on its entry into the body. Explain the events that occur in the cell which further lead to cause immunodeficiency syndrome.
 22. Mention the various steps involved in of plant breeding.

SECTION – D (1x4=4 marks)

23. Prabha has seen huge garbage dumps outside your school which are not being regularly disposed of by MCD. Prabha discusses the problems with school mates and decide to organize rally to spread awareness among local people about public hygiene.
- Prepare a list of your activities you plan to do to in this regard.
 - Name any two infectious diseases which may spread due to such unhygienic conditions at public place.

SECTION – E (3x5=15 marks)

24. Who proposed that DNA replication is semi conservative? How was it experimentally proved by Meselson and Stahl?

(OR)

Inheritance pattern of flower colour in garden pea and Snapdragon differs. Why is the difference observed ? Explain showing the crosses upto F2 generation.

25. Name the embryonic stage that gets implanted in human female. Explain the events that occur during this process.

(OR)

- a) Trace the development of embryo after syngamy in a dicot plant .
 b) Endosperm development precedes embryo development . Explain.
 c) Draw a diagram of a mature dicot embryo and label cotyledons , plumule, radicle and hypocotyl in it.

26. a) Give a detailed account of sewage treatment procedure.
 b) Draw the bio-gas production diagram.

(OR)

Mention the various addictive substances and give in detail :-

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|-------------------------------|-------------------------|
| i) Names of the substances | ii) Impact on the body |
| iii) Reasons of addiction | iv) Withdrawal symptoms |
| v) Treatment / Rehabilitation | |